



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,296	02/09/2004	Naoki Sadayori	Q79398	8748
23373	7590	12/13/2005		
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			EXAMINER SERGENT, RABON A	
			ART UNIT 1711	PAPER NUMBER

DATE MAILED: 12/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/773,296	SADAYORI ET AL.
	Examiner Rabon Sergeant	Art Unit 1711

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 29 November 2005.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-5 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-5 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
     1. Certified copies of the priority documents have been received.  
     2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
     3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
     Paper No(s)/Mail Date \_\_\_\_\_.

- 4) Interview Summary (PTO-413)  
     Paper No(s)/Mail Date. \_\_\_\_\_.  
 5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_\_.

Art Unit: 1711

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 29, 2005 has been entered.

2. The terminal disclaimer filed on November 29, 2005 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of a patent issuing from U.S. application 10/768,674 or a patent issuing from U.S. application 10/934,727 has been reviewed and is accepted. The terminal disclaimer has been recorded.

3. Claims 1-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The language, "high index of refraction", is subjective language. It cannot be determined what quantitatively constitutes a "high index of refraction".

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 1711

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Uwada et al. or Suehiro et al. or Naitou et al.

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131.

The references each disclose a high refractive index polycarbodiimide film, a solution of the polycarbodiimide, and a process for producing the polycarbodiimide, wherein the polycarbodiimide satisfies applicants’ requirement that the polycarbodiimide be derived from naphthalene diisocyanate, another diisocyanate, and a monoisocyanate. See examples 4 and 5 within Naitou et al. See examples 1 and 2 within Uwada et al. and Suehiro et al.

Art Unit: 1711

6. Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

7. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito et al. ('214).

Patentees disclose polycarbodiimide copolymers and their production as sheets, which meet applicants' claimed film structure, wherein the use of blends of diisocyanates is disclosed and naphthalene diisocyanate is disclosed as being an especially preferred reactant. See column 1, lines 54+ and column 2, line 35. Patentees further disclose solutions of the polycarbodiimides in aprotic solvents and termination of the polycarbodiimides with monoisocyanates at column 4, lines 20+. Lastly, patentees disclose reaction temperatures within the examples that meet those claimed.

8. Though patentees fail to disclose applicants' claimed ratio relationship between formula (1) and formula (2) of claim 1 or the 5% minimum of claim 5, the position is taken that the production of polycarbodiimide copolymers that satisfy the claims would have been obvious to one of ordinary skill in the art, given the broad range of ratios between formula (1) and formula (2) encompassed by the claims and in view of the fact that patentees specifically recite copolymers and the preferred use of naphthalene diisocyanate. Furthermore, the position is taken that the endpoint of the recited ratio (claim 1) or percent content (claim 5) is close enough to zero (denoting a naphthalene diisocyanate-based homopolymer) or 100%, respectively, that one of ordinary skill in the art would have expected such copolymers to have the same properties as the disclosed naphthalene diisocyanate-derived polycarbodiimide homopolymer. *Titanium*

Art Unit: 1711

*Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985). Applicants have provided no showings of unexpected results relative to the polycarbodiimides of Saito et al.

9. The examiner has considered applicants' response; however, the rejection has been maintained for the aforementioned reasons. Given the teachings of the reference, applicants have not established that the claimed polycarbodiimides are not *prima facie* obvious in view of Saito et al. Applicants' arguments fail to appreciate the fact that Saito et al. teach polycarbodiimide copolymers and teach the preferred use of naphthalene diisocyanate. Furthermore, the language, "high index of refraction", is subjective to the extent that it essentially conveys no patentable limitation to the claims. Any index of refraction is adequate to satisfy the language, and applicants' have not established that the pre-carbonized polycarbodiimides of the reference do not possess such an index of refraction. Also, the solutions of claims 3 and 4 and the process of claim 5 are not governed by the argued added limitations of claim 1, because claims 3 and 4 are drawn simply to a solution of the polycarbodiimide, as opposed to a film comprising the polycarbodiimide, and claim 5 is independent of claim 1.

10. It is noted that the naphthalene diisocyanate percent content of claim 5 is not fully equivalent to the ratio of m to n within claim 1. Given that n designates the non-naphthalene diisocyanate residue of claim 1, the ratio of claim 1 specifies a percent content for naphthalene diisocyanate residue of 1% to 95%.

Any inquiry concerning this communication should be directed to R. Sergent at telephone number (571) 272-1079.

R. Sergent  
June 26, 2005

  
RABON SERGENT  
PRIMARY EXAMINER